



Watershed Boundary Dataset (WBD)

A Multi-Agency Effort to Create a Seamless, Hierarchical and Integrated Hydrologic Units for the Nation

Vision for the geospatial framework for surface water

Follow a drop of water from where it falls on the land, to the stream, and all the way to the ocean.



What is the Geospatial Framework for Surface Water?

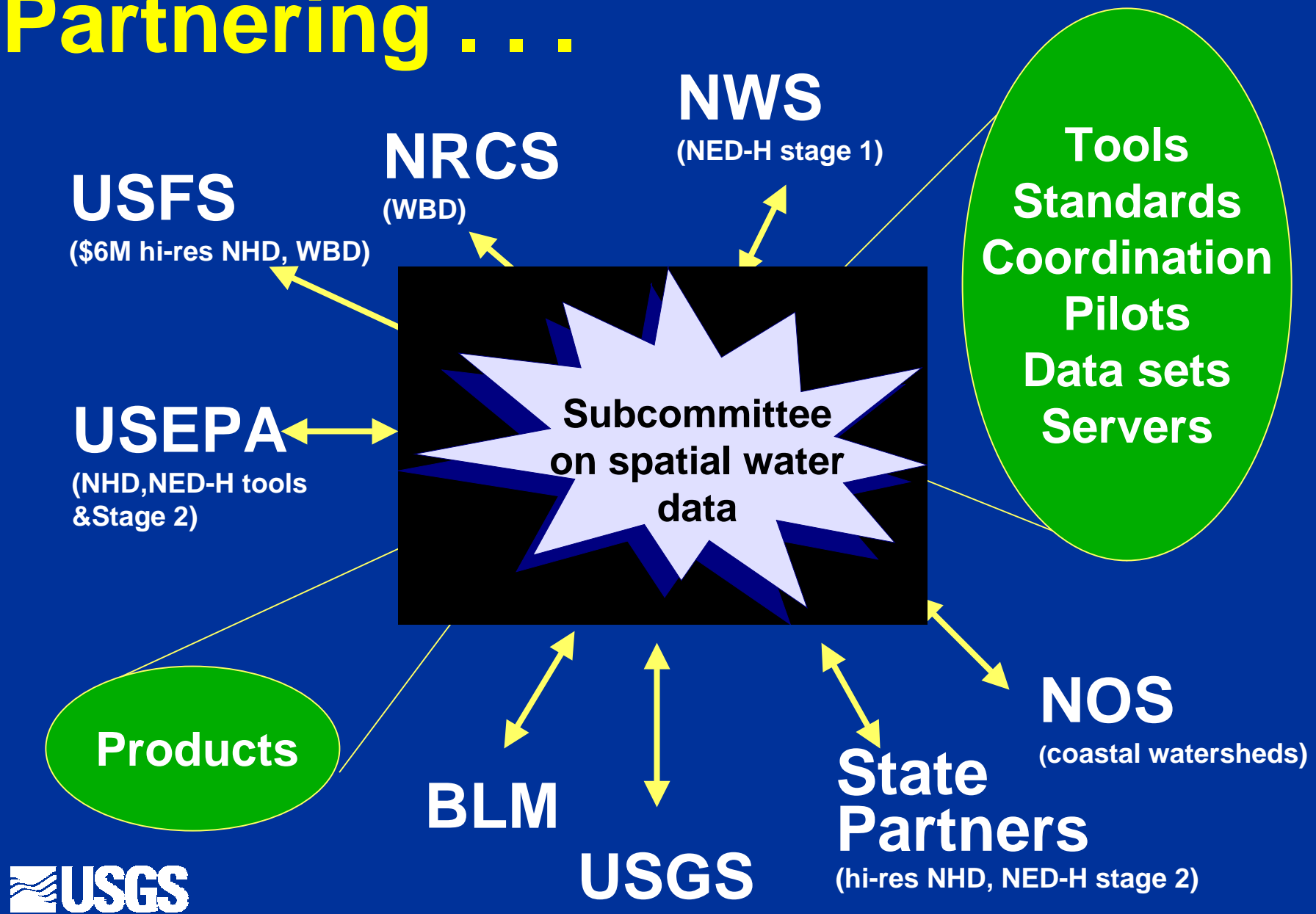
A standard set of **Watershed Boundaries (WBD)** coupled with a **National Stream Network (NHD)** and the Topography that dictates the flow of Water across the **Land Surface (NED & EDNA)**

Geospatial Framework for Surface Water

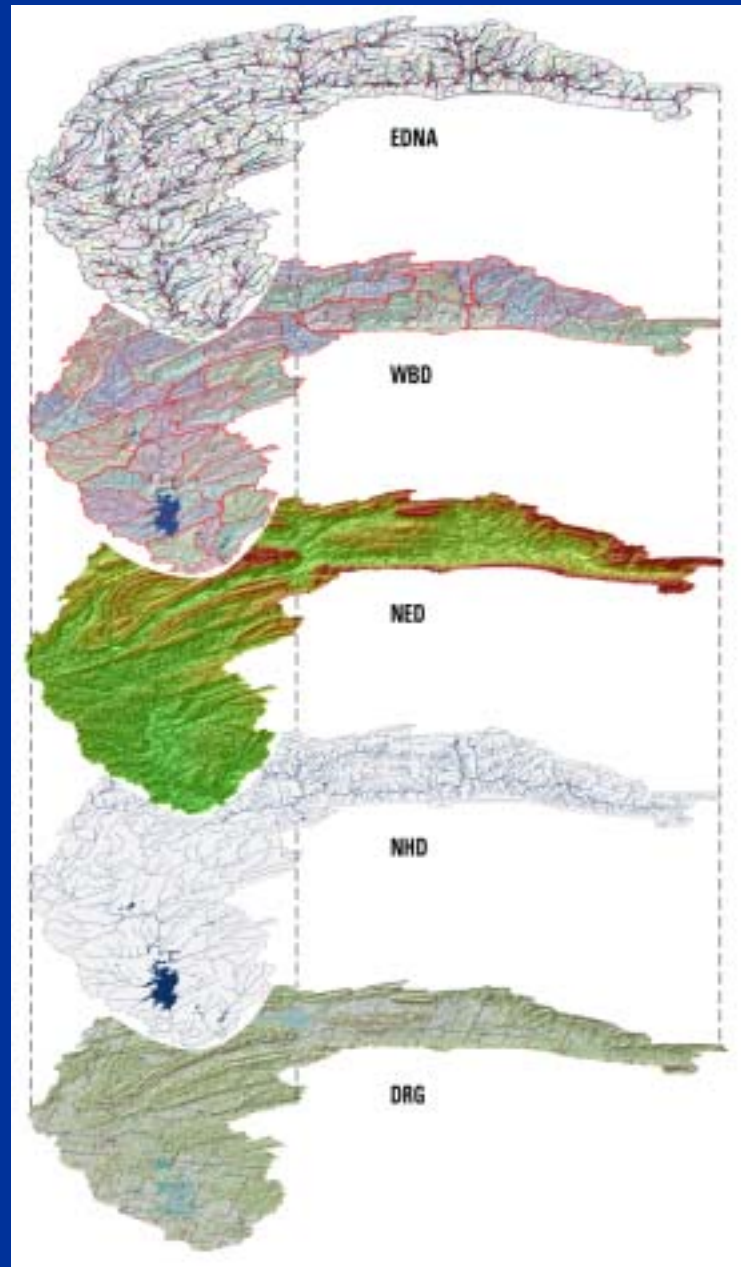
Sponsored by Federal Geographic Data Committee (FGDC) and Advisory Committee for Water Information (ACWI), Subcommittee for Spatial Water Data Information (SSWD)



Partnering . . .

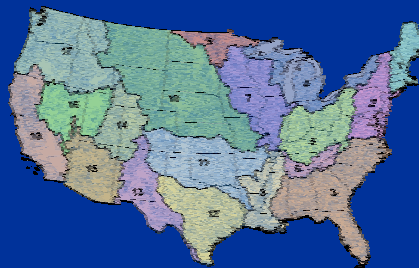


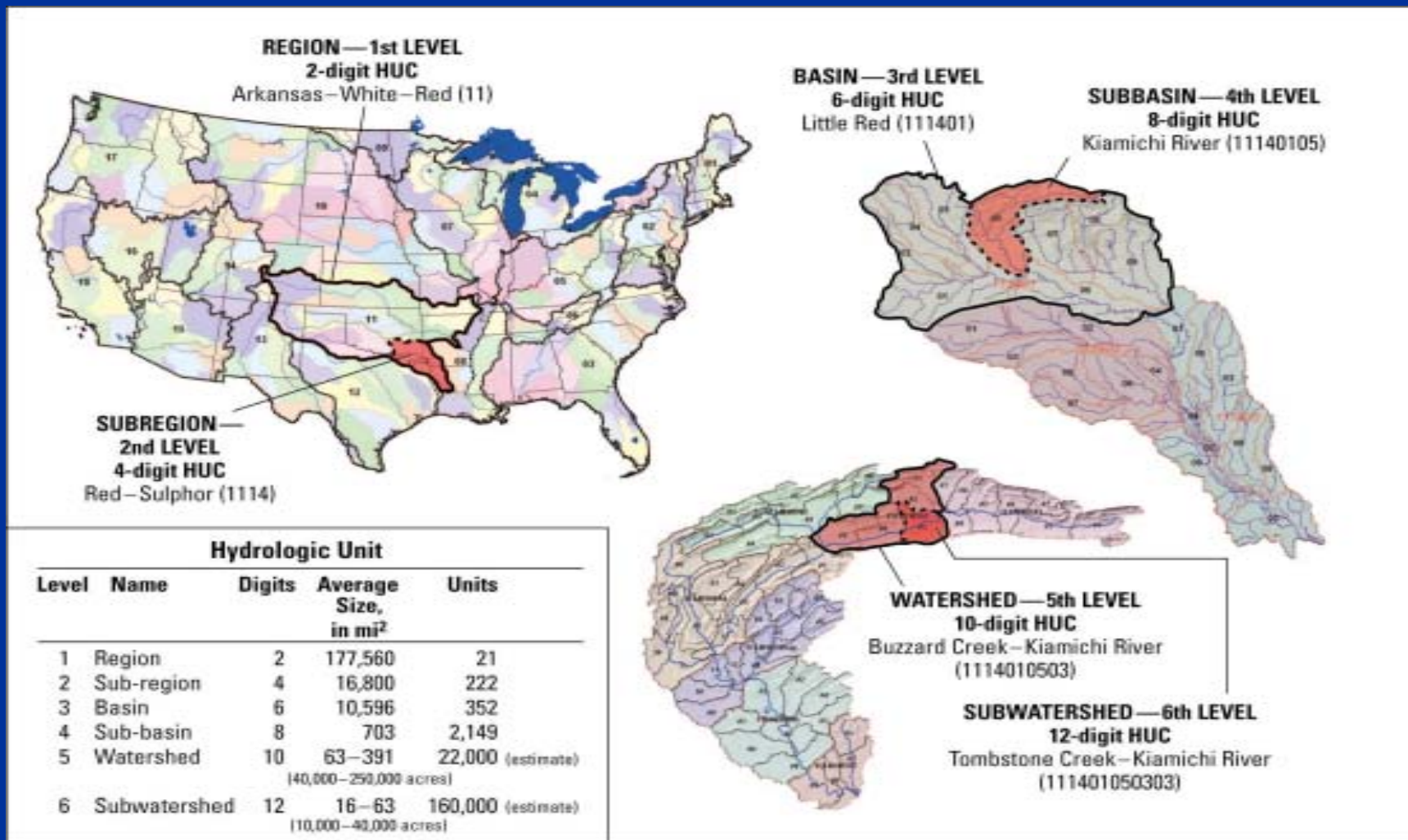
Integration of Key National Datasets



Watershed Boundary Dataset (WBD)

- A **single, seamless, hierarchical** hydrologic unit dataset based hydrologic mapping principles.
- Consistent base scale of **1:24,000**
- **GIS** dataset with multi-functional attributes
- Served and maintained by a single entity
- **Integrated** with other key national datasets
- **Common reporting unit** for different levels of management needs





Overview

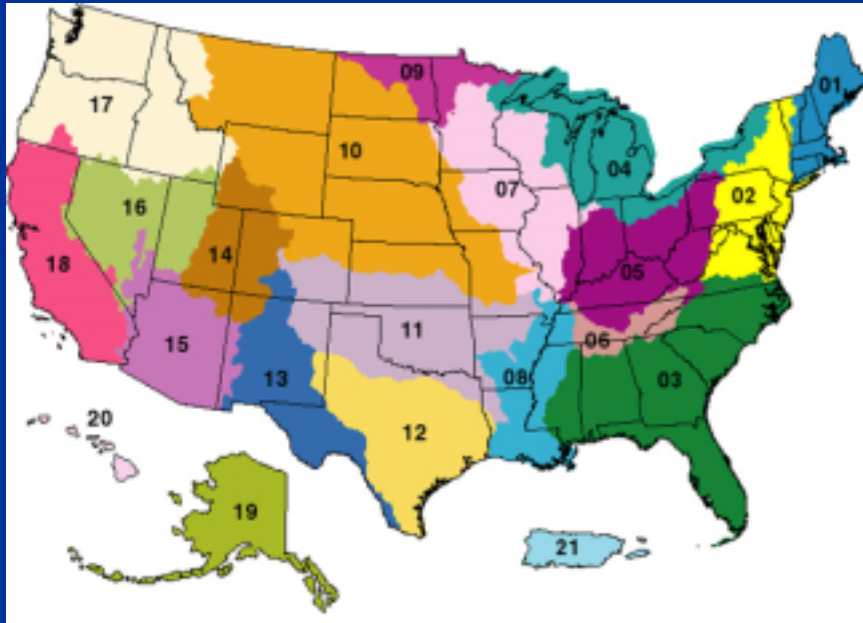
Water Accounting

Uninterrupted Depiction of Flow

Aggregation of Drainage Area Characteristics



Hydrologic Unit Codes



2-digit=1st level=22 regions

4-digit=2nd level=222 subregions

6-digit=3rd level=789 basins

8-digit=4th level=2223 subbasins



Hydrologic Unit Levels

Hydrologic Unit Level	Name	Digits	Size	Units
1	Region	2	Average: 177,560 sq. miles	21
2	Sub-region	4	Average: 16,800 sq. miles	222
3	Basin	6	Average: 10,596 sq. miles	352
4	Sub-basin	8	Average: 703 sq. miles	2,149
5	<i>Watershed</i>	10	63-391 sq. miles (40,000-250,000 acres)	22,000 (estimate)
6	<i>Subwatershed</i>	12	16-63 square miles (10,000-40,000 acres)	160,000 (estimate)

National WBD Coordination - SSWD

- Ensure communication between Federal, State, local
- Assess progress in each state
- Offer guidance on delineation method for states
- Ensure compliance with the National Guidelines
- Facilitate edge matching between states
- Provide supplemental datasets that expedite delineations
- Organize and attend workshops and training sessions



Watershed Boundary Dataset (WBD)

Data Availability

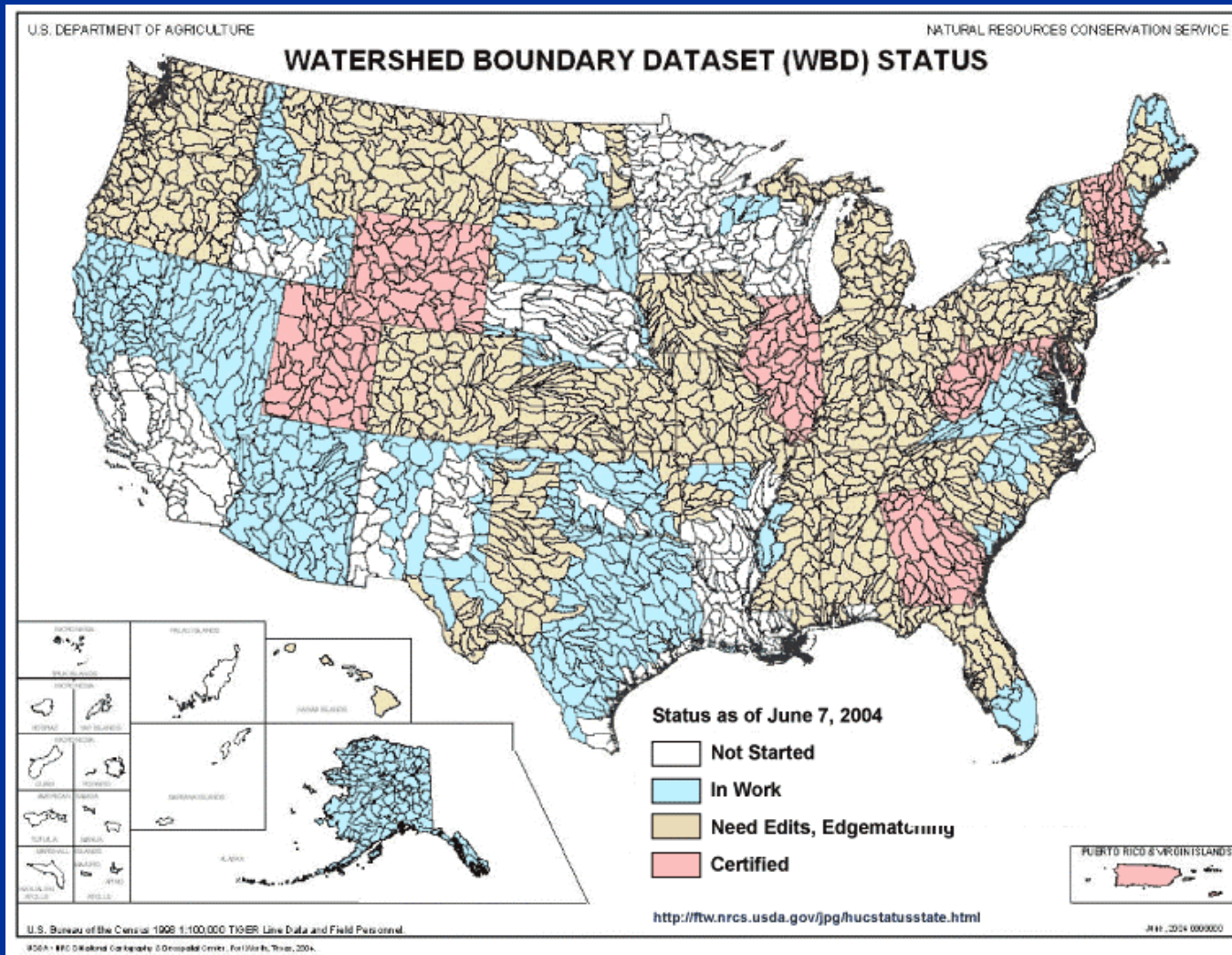
- Currently - 12 states or territories certified
- Goal - 32 states certified by end of December, 2004
- 2005 goal - 38 states certified
- Anticipated completion by summer, 2006

- WBD website
<http://www.ncgc.nrcs.usda.gov/branch/gdb/products/watershed/index.html>

- Website to download WBD – Geospatial Data Gateway
<http://datagateway.nrcs.usda.gov/GatewayHome.html>



Current Status of the WBD



Cooperating Agencies:

USDA Natural Resources Conservation Service

U.S. Geological Survey

U.S. Forest Service

U.S. Environmental Protection Agency

National Oceanic and Atmospheric Administration

U.S. Bureau of Land Management

U.S. Bureau of Reclamation

U.S. Corps of Engineers

Tribal Governments

State Agencies

Local Agencies



Challenges

- Agency support is highly variable
- Delineation methods vary state to state
- Addressing cooperators needs to preserve existing watershed boundaries
- Inconsistent funding
- Edge-matching

Action Items for the Subcommittee members:

- Increase awareness in your organizations
- Help make completion of the WBD a priority
- Assist the Subcommittee with a supported business plan
- Help identify potential funding sources

The Geospatial Framework For Surface Water Exists

But - It needs a substantial effort to reach its full potential,

Many agencies (Federal & State) & private sector are working together to complete the tasks.

What will this Accomplish:

- An appropriate system for referencing of information about:
 - Withdrawal Points
 - Discharge Points
 - Gage Locations
 - Sampling Points
- Providing logical connections: upstream, downstream, and in the watershed

What does it take ?

- Consensus definitions/standards (ACWI/FGDC)
- Develop tools
- Apply the tools to create the framework data
- Quality assurance
- Store & disseminate the framework data sets
- Code features to the framework
- Train users
- Maintain the framework data sets

We need a detailed, standardized and hydrologically sound national system of stream and watershed addresses.

Without, it will be tough for the scientific and engineering communities to integrate and deliver water information.

